

c1

1. (Twice Amended) An isolated DNA sequence selected from the group consisting of:

- (a) DNA sequences comprising a nucleotide sequence encoding a protein comprising the amino acid sequence as given in SEQ ID NO:2;
- (b) DNA sequences comprising a nucleotide sequence as given in SEQ ID NO:1;
- (c) DNA sequences hybridizing under stringent hybridization conditions with the complementary strand of a DNA sequence as defined in (a) or (b);

wherein said stringent hybridization conditions comprise 4X SSC at 65° C or 50% formamide, 4X SSC at 42° C, followed by washing in 0.1X SSC at 65° C for one hour.

2. (Twice Amended) A method for identifying and obtaining a cyclin or a nucleic acid molecule encoding a cyclin wherein said nucleic acid molecule encoding said cyclin is inducible by a mitogenic agent, said method comprising performing a two-hybrid screening assay wherein CDC2a is expressed as a bait and a cDNA from a cDNA library of a plant cell suspension is expressed as prey in a cell;

incubating the cell under conditions wherein the cell grows or survives or has enhanced growth or survival when the expressed CDC2a binds a protein encoded by a cDNA from a cDNA library;

selecting the growing or surviving cell and isolating the cyclin or nucleic acid molecule encoding the cyclin from the growing or surviving cell.

c2

4. (Twice Amended) An isolated DNA sequence encoding a cyclin and inducible by a mitogenic agent obtainable by the method of claim 2 or 3.

C3
10. (Twice Amended) A method for the production of a cyclin encoded by a gene inducible by a mitogenic agent comprising culturing a host cell of any of claims 8, 32 or 34 under conditions allowing the expression of the protein and recovering the produced protein from the culture.

C4
27. (Twice Amended) A diagnostic composition comprising the DNA sequence of claim 1, and optionally suitable means for detection of said DNA sequence wherein the means for detection is a probe.

C5
32. (Amended) A host cell comprising the vector of claim 6.

33. (Amended) A host cell comprising the vector of claim 30.

34. (Amended) A host cell comprising the DNA sequence of claim 1.

35. (Amended) A host cell comprising the DNA sequence of claim 4.

C6
38. (Amended) A method for modulating plant cell cycle, plant cell division or growth which comprises modulating the level or activity of a cyclin that binds CDC2a in a plant cell wherein said cyclin comprises the sequence set forth in SEQ ID NO:2.

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39. (Amended) A method for modulating plant cell cycle, plant cell division or growth which comprises modulating the level or activity of a cyclin that binds CDC2a in a plant cell wherein said cyclin is encoded by:

(a) DNA sequences comprising a nucleotide sequence encoding a protein comprising the amino acid sequence as given in SEQ ID NO:2,

(b) DNA sequences comprising a nucleotide sequence as given in SEQ ID NO:1,

(c) DNA sequences hybridizing under stringent hybridization conditions with the complementary strand of a DNA sequence as defined in (a) or (b) wherein said stringent hybridization conditions comprise 4X SSC at 65° C or 50% formamide, 4X SSC at 42° C, followed by washing in 0.1X SSC at 65° C for one hour.

40. (Amended) The method of claim 39 wherein modulating the level or activity of the cyclin that binds CDC2a is achieved by overexpressing one or more of said DNA sequences in a plant cell.

41. (Amended) The method of claim 39 wherein modulating the level or activity of the cyclin that binds CDC2a is achieved by reducing expression by one or more said DNA sequences in a plant cell.

C } Please add the following claims:

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42. (New) The isolated DNA sequence of claims 1, wherein said DNA sequence encoding a cyclin is inducible by a mitogenic agent.